

THE DISTRIBUTION OF THE AFRICAN STRYCHNOS SPECIES

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The present author recently revised the genus *Strychnos* as occurring in Africa. This revision was based on the material of 75 herbaria and studies of living plants. The author observed 40 out of the 75 African species in the field.

Some of the distribution maps published in the revision are compared here with the "Vegetation Map of Africa" of the A.E.T.F.A.T. (1958). It is evident that this comparison can give only limited information on the ecology of the species involved.

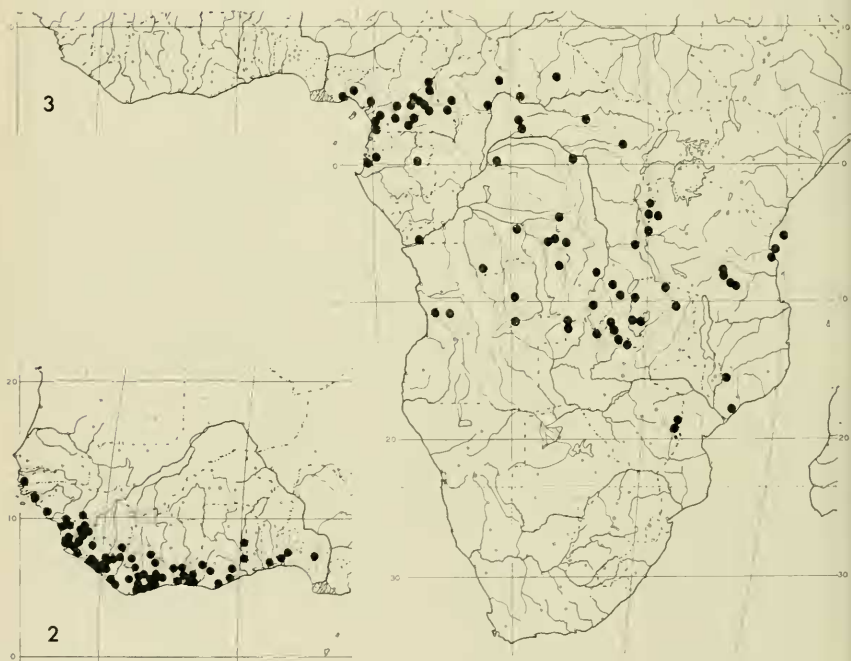
A great number of species are restricted to the "Moist Forest at low and medium altitudes" (7 of the map), e. g., *S. aculeata* (Revision Map 1),* *S. campicola*, *S. camptoncura*, *S. congolana* (Map 11), *S. densiflora*, *S. floribunda*, *S. icaia* (Map 20), *S. johnsonii* (Map 22), and *S. longicaudata* (Map 24), which between them inhabit almost the entire forest area of the continent.

S. afzelii (Map 2), *S. barteri*, *S. cuminodora* (Map 12), *S. dinklagei*, *S. melastomatoides*, *S. millepunctata*, *S. odorata*, *S. soubrensis*, and *S. splendens* inhabit the West-African forests, sometimes only a part of this area.

S. chromatoxylon, *S. cuniculina* (Map 12), *S. dale* (Map 13), *S. dolichothyrsa*, *S. elaeocarpa*, *S. fallax*, *S. gnetifolia*, *S. kasengaensis*, *S. malchairii*, *S. mimfimensis*, *S. moandaensis*, *S. ngouniensis*, *S. tshibangensis*, and *S. zenkeri* are confined to Central Africa or a portion of it. *S. asterantha* (recently discovered in Liberia by J. W. A. JANSEN, 869 (WAG), and in Ivory Coast by F. J. BRETELER, 6059 (WAG)), *S. malacoclados*, and *S. nigritana* (Map 25) occur in West and northern Central Africa, whereas *S. boonei*, *S. chrysophylla* (Map 9), *S. memecyloides*, *S. samba*, *S. talbotiae*, and *S. urceolata* occur in the forest area of Nigeria and Central Africa. The majority of the aforementioned species prefer river banks.

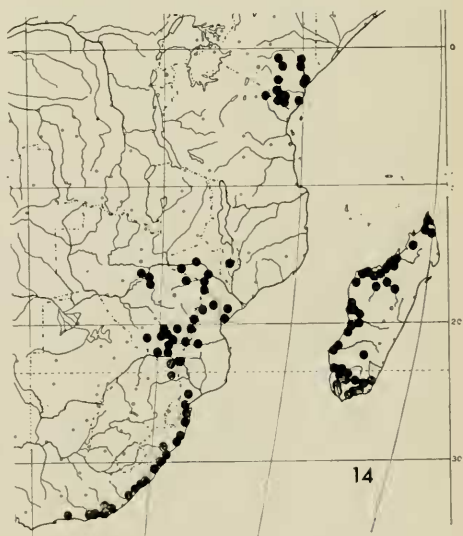
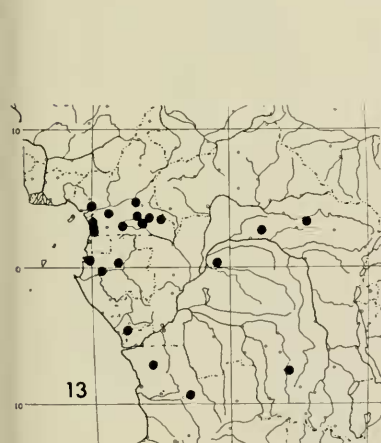
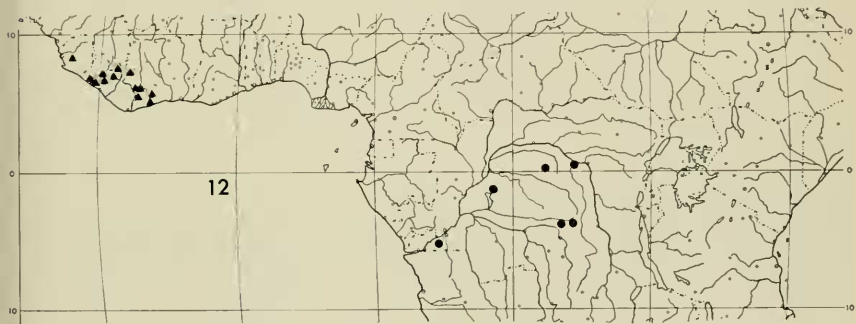
Several of the forest species do not only occur in the forest area, but penetrate into the savannas by way of the gallery forests, e. g., *S. kasengaensis*, *S. longicaudata*, and *S. nigritana* (Map 25). The East-African forest species, *S. mellodora*, *S. mitis* (Map 30), and *S. panganensis*, are even restricted to the gallery forests in the greater part of their areas, there being only a few closed forests in their area.

* All map numbers cited here are found in my monograph of 1969 (see Reference); only a selected number of maps accompany this present paper.



Map 1. *S. aculeata*; Map 2. *S. afzelii*; Map 3. *S. angolensis*.

Map 11. *S. congolana*; Map 12. *S. cuminodora*, *S. cuniculina*; Map 13. *S. dale*; Map 14. *S. decussata*.



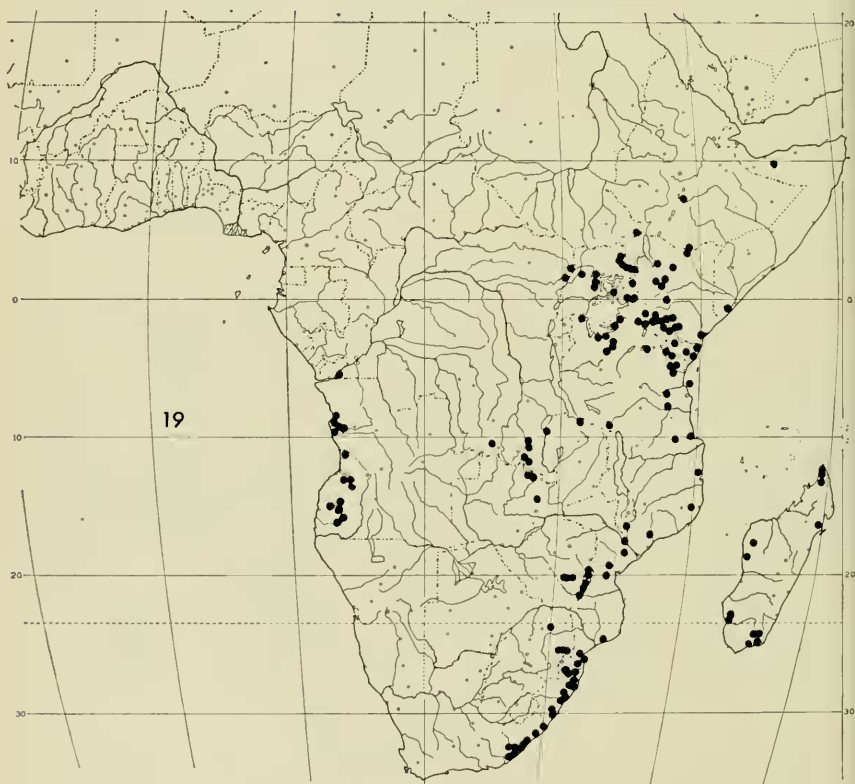
S. angolensis (Map 3) and *S. scheffleri*, widely distributed in Central and East Africa, occur both in the closed forest area and in the gallery forests.

The majority of the forest species inhabit riverine forests. It is therefore understandable that they occur in the gallery forests which often are reduced to small groves or thickets.

It goes without saying that the areas of the species enumerated in the two preceding alineas cannot easily be compared with this map the scale of which is far too small to indicate the gallery forests.

On the other hand there are true savanna species which occur normally only in woodlands and bushlands. Nevertheless they may penetrate into gallery forests, like, e. g., *S. gossweileri*, *S. madagascariensis* (Map 26), *S. matopensis*, and *S. spinosa*.

The savanna species are generally more widely distributed than those of



Map 19. *S. henningsii*.



Map 20. *S. icaja*.



Map 21. *S. imosua*.

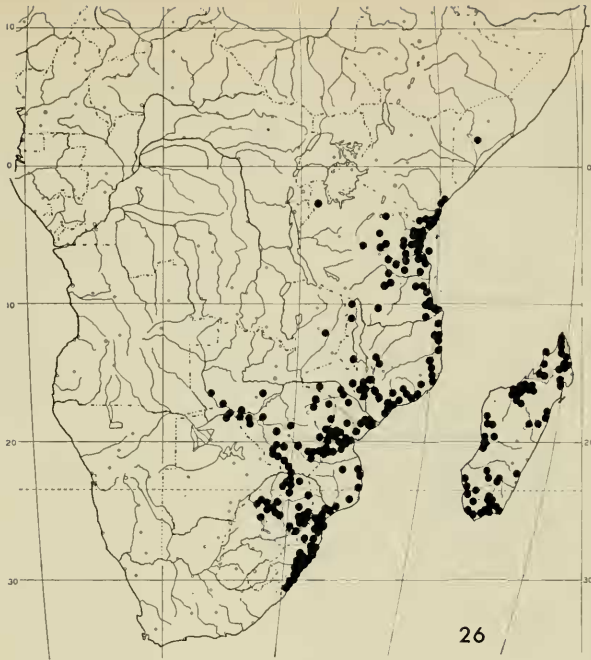


Map 25. *S. nigritana*, *S. lucens*.

the forests. *S. innocua* (Map 21) and *S. spinosa* (Map 38) which occupy a horseshoe-shaped area adjacent to the central forest area the most widely distributed African species of the genus. The area of *S. innocua* covers nearly all of the savannas with *Isoberlinia* and those with *Brachystegia* and *Julbernardia* (Vegetation map 17, 18, 19), except for the eastern part. There the species is replaced by its nearest relative, *S. madagascariensis* (Map 26). The areas of the latter two *Strychnos* species overlap only partly in East Africa.

S. spinosa (Map 38) also avoids the forests, but it occupies more diverse habitats. It occurs not only in the woodlands enumerated above (17, 18, 19), but also in the "Forest-Savanna Mosaic" (8, 9), the relatively moist savannas (16), and the rather dry savannas (11, 20, 21, 22, 23). Furthermore it has some isolated stations in the "Wooded Steppe with abundant *Acacia* and *Commiphora*" (25) in relatively moist places, e. g., the Jebel Marra in the Sudan.

S. cocculoides and *S. pungens* (Map 35) have been collected many times throughout Central, East, and northern South Africa. They inhabit the

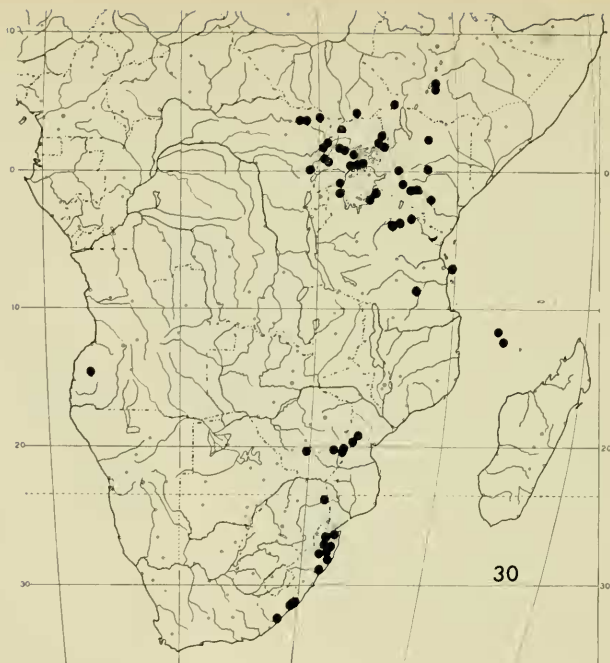


Map 26. *S. madagascariensis*.

same vegetations as *S. spinosa* as far as they are found south of the "Moist Forest at low and medium altitudes" (7).

The area of *S. potatorum* (Map 34) covers 18 and 19 in East Africa only roughly.

The area of *S. decussata* (Map 14) which has been collected many times is manifestly disjunct. The species occurs in Kenya in the "Wooded Steppe with *Acacia* and *Commiphora*" (25) and in the "Coastal Forest-Savanna Mosaic" (9), whereas in the southern part of its area, in Rhodesia, Moçambique, and South Africa it inhabits the rather dry savannas (20) often with *Colophospermum monopana* (22) and also the "Coastal Forest-Savanna Mosaic" (9). It evidently avoids the *Brachystegia-Julbernardia*-woodlands (18), which we may conclude here are too moist for this species. Also in Madagascar it inhabits the drier parts: "Dry deciduous Forest and Savanna" (11), "Thickets" (13), and the "Madagascar Grass Savanna and Grass Steppe" (23).



Map 30. *S. mitis*.

The also frequently collected *S. henningsii* (Map 19) occurs in 9, 20, 22, and 25, but on a much larger surface, even in Angola, and avoids the *Brachystegia-Julbernardia*-woodlands (18, 19), but not so clearly. The disjunction of the area of *S. henningsii* may be explained in the same way as that of the area of *S. decussata*. The preference for dryness of *S. henningsii*, as far as it occurs in Madagascar, is not pronounced as may be true for East Africa.

A clearly disjunct area also is shown by *S. usambarensis* (Map 44), which occurs in the forests or the gallery forests in the greater part of tropical and northern South Africa. It has, however, never been collected in Cameroun, the Central African Republic, nor in Gabon. The present author collected it repeatedly in the Ivory Coast, but never saw it in Cameroun, a country very rich in *Strychnos* species. This disjunction cannot be explained by the ecology of the species and therefore the question remains why this species has never been found in the three above-named countries.

A few dots have been added to the distribution maps. They are based on collections which arrived after the publication of the revision, e. g., J. J. Bos (Cameroun, 1968—1970), F. J. BRETHER (Gabon, Ivory Coast, Liberia,



Map 38. *S. spinosa*.

1968 and 1970), C. GEERLING & J. BOKDAM (Ivory Coast & Upper Volta, 1967-1968), A. J. M. LEEUWENBERG (Cameroun, Ivory Coast, 1970), J. LEWALLE (Burundi, 1968-1970), C. VERSTEEGH & R. W. DEN OUTER (Ivory Coast, 1969).

REFERENCE

LEEUWENBERG, A. J. M. The Loganiaceae of Africa VIII. *Strychnos* III. Revision of the African species with notes on the extra-African. Meded. Landbouwh. Wageningen 69(1): 1—316 (1969).



Map 44. *S. usambarensis*.